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A Preliminary Report of a  
Method for Securing the Vocabularies  
of Six-Year-Old Children

Psychology

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A PRELIMINARY REPORT OF A METHOD FOR  
SECURING THE VOCABULARIES OF  
SIX-YEAR-OLD CHILDREN

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BY

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THESIS

Submitted in Partial Fulfillment of the Requirements for the

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I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY SUPERVISION BY

Sarah Grace McMillen

ENTITLED **A Preliminary Report of a Method for Securing the**

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on  
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## O U T L I N E

- 1 Reason for the experiment.
- 11 Objects of experiment to determine,
  - 1 Size of vocabulary
  - 2 Increase of vocabulary
  - 3 Relation between efficiency and size of vocabulary
- 111 Previous experimenters in this field,
  - 1 A. Salisbury - Educational Review. March, 1894.
  - 2 Wm. Canton - McClure. August, 1897.
  - 3 John R. Pelsma - Pedigogical Seminary. September, 1910.
  - 4 G. M. Whipple - Pedigogical Seminary. March, 1909.
  - 5 E. A. Kirkpatrick - Science. September, 1891.  
Popular Science. February, 1907.
- 1V Method - description,
  - 1 Preparation
  - 2 Story - dream story
  - 3 Forms of words
  - 4 Time
  - 5 Number of subjects
  - 6 Age - physical conditions - families
  - 7 Manner of presentation
  - 8 List of suggestion sentences
- V Tables of results,
  - 1 Number of words and new words
  - 2 Sum total of words used

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- 3 Class average
- 4 Parts of speech
- 5 Curves

V1 Discussion of results,

- 1 Deficiencies from normal noticed
- 2 Home environment
- 3 Sex differences
- 4 Individual differences or characteristics
- 5 Relation of efficiency and class standing

V11 Summary





There is an impression amounting to conviction current among school superintendents that pupils entering high school are deficient in vocabulary. It would appear from this belief, that such pupils prove themselves unable to express clearly and concisely the general information which should be at their command. If this be true, can the responsibility for this defect be located in the school grades, or is the deficiency in vocabulary due to conditions of the home environment preceding and during the grade period? This preliminary report presents an effort to devise a method whereby the extent of vocabulary of children of the first grade may be determined as a basis of comparison with the later stages of school advancement. It is important to discover the actual number and kind of words at the easy disposal of a child on entering school. It will be of interest also to note the relation of extent of vocabulary to school standing.

In spite of the results obtained by experimenters, people generally underestimate rather than overestimate the size of the vocabulary. The experiments in which the concepts have actually been counted have been limited to one or two subjects for each experimenter. Although the tests were similar in character, yet the interpretation and evaluation of results varied with each experimenter. For example,- the number of words counted as separate reactions. Following the statement of Prof. Laurie,- that a child used about one-hundred-fifty words, A. Salisbury (1) tested the vocabulary of his boy, five and one





half years of age and found he could use 1528 words correctly. With the exception of the pronouns, inflected forms of words were not counted.

After a careful testing of the range of the vocabulary of his child, Wm. Canton (2) came to the conclusion that any six-year-old child with average intelligence may be credited with a clear, practical knowledge of 2000 words. He included no grammatical variants. It was found by John R. Pelsma (3) who tabulated the vocabulary of his child that at the end of the first year she could use 10 words, the second 379, third 681, and at the end of the fourth year 1278 words. He then estimated the range of vocabulary of a child six years of age to be 2000 words, confirming Canton. Prof. G. M. Whipple and wife (4) after carefully counting the words used by their three-year-old boy found his vocabulary to consist of 1771 words. He included both inflected forms of verbs and proper nouns.

E. A. Kirkpatrick (5) has investigated, through the experiment method, the problem of the vocabulary of children. After a careful study with several subjects he reached the conclusion that the average vocabulary of a two-year-old child is between 200 and 400 words. Through his dictionary test, Kirkpatrick (6) formed an equation by which he estimated the size of the vocabulary in the grades of school and classes in college. He gave no estimate of first grade children but that of the second grade was 4480 words.

Since an important aim of the primary teacher is to





enlarge the child's vocabulary in order to give him a basis for the work which is to follow, she should know the number and kind of words the child has at his command at the time of the first school year. One of the principal objects of this experiment is to learn the size of his vocabulary in this first year of school.

The child gains his early words through the medium of the home. About the sixth year he goes into an entirely new environment - that of the school. He has new surroundings, experiences, new situations for which he must have a different set of cues, and meets in all probability a number of associates different to any with whom he has before come in contact. A second object of the experiment, then, is to get an approximation of the number of new, usable words the child gathers during this year.

E. H. Babbitt (7) tested his classes in German on their German vocabulary and found class standing so closely allied with extensiveness of vocabulary that he suggests the college entrance examinations might well consist of a word test, - if the candidate does not make a special preparation for it by studying the dictionary, solely. If this conception is true for all branches of education, then early school training should consist of a constant drill in the use of words. Another point of this experiment, therefore, is to notice the existing relations between efficiency and the size of the vocabulary, and to see if enlarging the number of words means enlarging the field of thought.



Realizing that different teachers have varying standards and means of grading, the class average is inserted for general comparison. The percent is based upon the rapidity and precision with which the children take up new work.

The plan of the experiment has been as follows, - Type suggestion words were chosen which touched the general activities of the child, and brought out the available words in the constellation represented by the type words. The form of reaction was a story told by the subject; the experiment was conducted in the absence of other children. As the story was told, it was written word for word by the experimenter. Unlimited time was given the subject and he was unhampered by thoughts of correct expression. An individual or personal equation is an important factor in an experiment with children, for although they may become very self-conscious before strangers they are free from embarrassment, and cooperate satisfactorily with persons with whom they are well acquainted. As far as practicable all distractions were removed and the only interest shown in the story was by the expression on the countenance of the experimenter. The material was then examined, the number of words, number of new words and the parts of speech counted and the characteristics in speech noted.

Before beginning the experiment, a preliminary routine of three weeks was passed through by the children. From the first day of school, as a part of the regular school work, the children were shown pictures and objects. Description and





stories accompanied the presentations, and the children were asked, on the following day, to repeat the story.

After a few days one group of children was told, in a whisper, to perform a certain action or play a game, and when this group had finished, the other pupils were asked to describe what they had seen. The object of the work so far was to overcome the timidity of the children who enter school for the first time and meet the stranger - teacher. During the third week they were asked to describe something outside the school-room, as - "What did you do last night after school?" "Tell us all you saw on your way to school this morning." "Tell us about your play yard."

During the third week, also, the subject of dreams was discussed and some of the children called upon to tell dreams they had had. If a proper name was introduced into the story the child was asked to describe the person. As far as possible the visual features of the dream were emphasized. During this week an action song, "Roll the Hands" had been taught. In the fifth verse were the words, "Go to sleep, go to sleep, as lazily as lazily as lazily can be. Go to sleep, go to sleep as lazily, then bow down your head like me." The head was put down on the arms upon the desk and the eyes closed. While in this position a suggestion word as - "Mamma" was given by the teacher and the children "dreamed" or "thought" about her. As rapidly as they were ready to describe the situation presented to them, they sat up quietly to avoid disturbing any one else. When all or nearly all were sitting upright, one child was called upon to





tell his dream. If the story was well told the teacher commended it:- very often said - "That picture must be a clear one to Harold when he could make us see it so plainly." No suggestion words used during this practice were used later for the experiment.

The experiments now had two slightly different ways of securing the reactions to suggestion words, - simple story form and the dream-story. The dream story proved valuable at the outset, as preliminary training in concentration upon the mental processes called up through suggestion. In the early recitals slight occurrences|distracted the attention, but the distractions were of short duration, the processes suffering only a temporary check.

The experiment was begun in the fourth week of the school year, 1910 - 1911. The time given to the experiment was about thirty minutes before morning and afternoon sessions at recess and, in the Spring when the days were bright, after school. The children observed the teacher writing their stories and counting the words. They were very much interested and often pleaded to be permitted to remain and "tell another story." The ages of the children were distributed about a median of six years. Because of the influence that might be exerted over the mind of the child, no one was permitted to relate a story who had been recently disciplined in any way.

Owing to the crowded conditions of the primary grades, sixteen of the children who had begun the experiment were transferred to another school room. Some ten weeks later



an epidemic of measles prevailed in the school which reduced the number of reactions. There were, therefore, some twenty children who completed the work to a certain point.

The children were from families of hard working people. Subjects No. 1 and 14 were from Jewish homes, the mother in neither family being able to write. Subjects No. 8, 11, and 15 had had one term in the kindergarten. The children were in good health, and were about the average weight and height, the only exception was number 4 who had growths obstructing the nasal cavity which made him subject to severe colds. However special care was used to call upon him for stories only when he was feeling well.

In presenting the number of reactions each form of a word was counted as a different word; as - go, going, went - three words - except the singular and plural of the same word. Titles of books and stories and names of songs were taken as one word and were classified as proper nouns together with names of places and people. The proper nouns were included in the sum total of words but were also kept separate, so that they may be easily deducted. The parts of speech were determined by their use in the sentence.

When the experimenter wished the story to be a dream-story the child placed himself in the position for the play-sleep and when ready to tell his dream he came to the teacher's desk. The child faced the experimenter with a window, through which only the tops of the trees could be seen, at the left side. The experimenter wrote as the child talked.





Below appear the suggestion words and questions.

Each question was given in connection with the suggestion word and at the same time. Each subject was asked all the questions appearing and no subject was asked any question not appearing. Each child took all the time he wanted to tell the story.

# I Party - a dream.

Dream about a party. Who was there? What did you do? How were you dressed? The questions were asked one after the other slowly, while the child had his arms upon his desk and the head on the arms.

## II Time. Each question was answered as asked.

(1) How old are you? (2) When did you start to school? (3) How long does it take you to walk to school? (4) How long does it take you to run to school? (5) How long would it take you to come in an automobile? (6) How long would it take if the school were one hundred miles away? (7) How long would it take if the school were across the street?

## III Food - story.

Tell me all the things you like to eat and what other people like. What do animals like?

## IV Xmas - a dream.

Dream about your Xmas. Tell me all about it.

## V Stores - dream.

Let us dream that we are going into a butcher shop. Tell me all you see. The same was asked for the grocery, hardware, bakery and furniture stores, clothing store, drygoods store, book store, jewelry, drug, and toy store. It usually





took three different times to complete number V.

V1 Body - story.

Name for me every part of the body that you can - like the eyes and the nose.

V11 School - story.

Look all around the room and tell me every single thing, no matter what it is, you see.

V111 Circus - dream.

Did you ever go to a circus? Dream about all you saw and heard there.

1X Birds - Trees - Flowers - Insects - Animals - dream.

Dream that we are taking a walk and are looking for all the birds you ever heard of. Tell me all the birds you see. The same was asked for the trees, flowers, insects, and animals. This group took five periods.

X Games - a story.

What games do you play? How do you play them?

X1 Church - a dream.

Dream about church and Sunday School. What do you do while there and why do you go?

X1 Action - story.

Tell to me all the things anyone can do.

Table 1, in the following table of results, shows in the first column the number of words and the number of new words used in each reaction for each child; - the first division of the column shows the number of words and the second division the



number of new words. Column 13 shows the sum total of words, and column 14 the number of new words given. Column 15 shows the class standing secured from the daily school work. Column 16 gives the total number of proper nouns used by each subject. Table 11 shows the percent of the number of the parts of speech.





No. 1

	I		II		III		IV		V		VI		VII	
	Party		Time		Food		Xmas		Stores		Body		School	
	No.	New.	No.	New.	No.	New.	No.	New.	No.	New.	No.	New.	No.	New.
1	50	35	54	34	184	125	144	79	447	189	42	35	215	124
2	323	118	83	35	235	143	359	188	373	144	70	30	352	128
3	80	51	42	25	195	117	272	85	461	204	47	45	239	148
4	58	33	74	43	222	171	295	96	797	353	60	38	340	189
5	85	51	92	60	128	96	187	70	461	256	94	48	220	129
6	56	36	27	18	313	241	244	75	612	282	42	39	178	128
7	183	83	57	31	321	146	253	92	865	294	94	51	293	145
8	87	49	49	29	161	95	393	114	458	264	81	45	272	140
9	166	147	41	26	310	221	181	89	464	288	117	47	271	159
10	219	91	32	18	243	89	293	64	389	268	60	46	255	136
11	205	85	44	22	259	193	564	149	608	281	112	64	230	118
12	491	186	112	34	343	140	443	96	740	382	94	37	270	101
13	172	79	58	27	362	166	323	79	400	270	61	41	181	133
14	33	25	25	15	58	47	193	83	209	146	53	43	197	144
15	69	39	16	13	143	111	233	92	562	255	79	66	227	123
16	74	39	23	20	156	139	150	59	379	216	68	56	204	180
17	185	106	123	42	147	75	223	63	372	193	150	60	218	130
18	182	98	27	16	172	136	167	45	603	268	99	50	343	187
19	173	98	29	15	186	101	178	69	295	144	92	36	100	69
20	274	115	93	44	179	135	271	60	756	271	101	45	298	195



Vlll		lX		X		Xl		Xll		S. T. N. W.		Av. P. N.	
Circus		Birds		Games		Church		Action					
No.	New.	No.	New.	No.	New.	No.	New.	No.	New.	No.	New.	No.	New.
1	120	20	123	70	49	20	22	7	89	20	1539	758	66 15
2	200	13	123	69	212	24	63	12	98	23	2491	927	78 25
3	149	58	156	106	281	72	171	17	164	41	2257	969	81 17
4	323	64	192	143	270	64	64	8	198	64	2893	1261	87 24
5	149	43	218	99	182	61	157	34	136	51	2009	998	79 29
6	223	52	118	80	230	45	57	22	110	36	2210	1053	84 11
7	339	65	250	120	210	22	106	18	214	45	3185	1112	83 37
8	425	90	217	140	190	40	82	11	183	52	2598	1069	83 16
9	265	82	304	168	446	50	76	21	173	38	2814	1336	95 23
10	291	48	120	84	123	39	99	22	157	39	2281	944	80 24
11	376	62	199	128	208	37	209	21	144	41	3158	1201	94 25
12	249	34	221	97	207	35	292	55	526	106	3988	1303	94 30
13	425	79	136	76	522	48	99	10	382	53	3120	1061	84 29
14	82	21	49	49	125	29	48	16	54	28	1126	646	89 10
15	392	92	152	115	342	43	186	24	112	44	2513	1047	86 22
16	436	96	224	136	259	42	173	36	122	37	2268	1056	87 27
17	280	47	187	125	250	61	84	29	224	78	2443	1009	84 49
18	209	56	220	125	199	89	29	11	95	28	2345	1109	85 18
19	78	12	89	51	96	33	130	24	65	19	1511	671	65 15
20	201	48	194	98	175	65	153	41	189	52	2883	1169	90 52





Table 2.

1	Nouns	Pro.	Adj.	Verb	Adverb	Prep.	Conj.	Int.	P.Nouns
	%	%	%	%	%	%	%	%	%
1	67	2	6	16	2	3	1	0	2
2	72	2	4	12	2	2	1	1	3
3	71	2	5	13	3	2	1	1	2
4	72	2	5	13	2	1	1	1	2
5	70	2	4	13	3	2	0	0	3
6	73	2	5	12	4	1	1	.5	1
7	70	2	4	13	4	1	1	.3	3
8	72	2	5	11	3	2	1	.3	2
9	73	2	4	12	4	1	1	.2	2
10	68	2	6	14	2	3	1	1	2
11	72	1	5	12	3	2	1	.6	2
12	70	3	5	12	4	2	.4	1	2
13	70	2	4	13	2	3	2	1	3
14	68	3	5	15	3	2	1	0	1
15	72	2	5	13	2	1	1	.3	2
16	75	2	3	10	3	2	1	1	3
17	71	2	4	13	2	1	1	.1	5
18	72	2	5	10	3	2	1	1	2
19	74	3	4	10	2	1	1	.6	3
20	70	2	4	12	3	1	.4	0	6



It will be noticed that the suggestion word " circus" did not bring forth as many new concepts as might be expected. This was probably because a circus had not been in the city for over a year so that the most prominent features only, remained with the children. This shows how mutable the vocabulary may be. The children could describe the circus easily if it had been before them, but they could not recall the circus images vividly enough to describe them in detail.

On the other hand suggestion words, numbers VI (Body) and IX (Birds) brought out more words than was anticipated. The reason for this was that number VI was given a short time after a set of lessons in hygiene had been finished in which different parts of the body had been described. Number IX (Birds) was given in the Spring while the children were watching for the return of the birds, also the kind of food they wished (insects, bugs) and for the opening of the flowers.

Subject number 12 entered school in the fourth week and later he was absent five and one-half weeks. But for this his class average would have been the highest. However he had previously lived in both the city and country so had a more general knowledge of the terms used in both places. He talked equally well about hitching up the horses and farm work and about the rides of the trolley-car.

Subjects Nos. 5, 8, and 17 are the only children of the family and in the case of 5 and 17 the parents give special care to the children. No. 8 lives in the hospital and associates





with the nurses so his vocabulary seems more specific than does any of the others. For example while the other children would speak of a sore throat he would state the special disease as "tonsillitis" or "inflammation of the throat". The difference in his vocabulary was very noticeable when he named the articles to be obtained in a drug store.

Subjects No. 1 and 14, children from the Jewish families, seemed to have a very limited vocabulary. Afterwards while out playing both were more inclined to talk although neither used so large a number of different words as did some other children under the same conditions.

There were some very interesting facts connected with the children's activities brought out by the stories. In the story (suggestion V) the articles of a drygoods store were named by the boys fairly well but slowly. Subject No.7 was an exception, He had been sick the first five years of his life so had been with his mother constantly and his first associations with boys and their interests were made after he had started to school. The boys named rapidly and eagerly the articles in a hardware store, included the different parts to an engine, the automobile tires and supplies; and some told of the different makes of bicycles. The girls on the contrary gave the names of the different kinds of dress goods as gingham - silk etc., but could mention only a few articles from the hardware store. In the description of the Xmas (suggestion 1V) the girls named the boys' playthings more easily than did the boys mention the girls' toys. Some of the boys did not give "doll" until they told of the things in the toy



store. At the party (suggestion 1) the girls played house, visited, cooked, sewed and played school. In the games (X) the boys played "Indian", "cowboy", "ball" and ran races.

Subject 16 told, that on his birthday he had received a tool-chest, chemical engine and a steam engine; at Xmas he had been given a street-car and that he already had a traction engine. He described in the games (suggestion X) how he made an engine with a long box, how he made the wheels, headlight, and cab; fastened it to chairs for the passenger coach; how he arranged the different objects for the fast mail, limited express and freight car. When any accident occurred he, as conductor or brakeman, always saved the train. In the circus (Vlll) he described a trip across the ocean with Buffalo Bill and how they took care of the animals on the steamer.

Subject No. 15 intends to be a teacher, so in the games and the action suggestions she told of her school and was always the teacher or superintendent. In nearly every case the subjects think they know what they are going to do when they are grown, and they imitate those chosen trades in their play.

The father of subject 9 is a baker and this child is in the bakery a great deal of the time. This probably accounts for the large number of new words in story V. The uncle of No. 11 has a restaurant near her residence, and this accounts for the larger number of names of articles given.

In suggestion 1 (Party) nearly every subject recalled a party which he had attended and which was often held at his own





home. Several connected it at once with a birthday party. Suggestion X1 brought forth a large difference in the number of new words. Subjects Nos. 1, 4, 8, and 18 started their story by saying, "I don't know very much about church for I haven't been there but once or twice." Subject 12 gave his story on Monday, after having been to a church dedication the day before. The Sunday School lesson had evidently made a strong impression through objects or pictures. He described in detail the temple in which the king had been hidden until the priest brought him out to the people. No. 15 gave an interpretation of the way God is always watching us at Sunday School and a description of His personal appearance. Every one said - "People go to church to pray and sing." One child said she wanted to learn to be good so that she would help her mamma and that God always told her mother when she was good. Another one said he went to church to learn to be good so that he would go to heaven when he died.

In part 1 of suggestion V several of the children could name some steaks. Every child said "round steak" but in several cases it was followed by "long steak." This brought out the fact that they were judging the names of all meats by the shape. They had taken the cue probably from hearing "round steak."

There is a wide difference in the number of words brought out by suggestion X11. Some of the subjects did not seem to get a clear idea of what was intended. The fault with this suggestion, as with number 11 lies in the questions. Both would have been rendered more successful by a change in the form



of the questions and would no doubt elicit a larger number of words.

By the method used in determining the extent of vocabulary, it will be seen that emphasis is placed not upon words but upon objects, descriptions and stories. The general attitude of the various subjects is that of every day life. The vocabulary secured in each case is the functional vocabulary, taken under conditions favorable for its display. The method, therefore, is one calculated to reveal more successfully than heretofore the contents of the minds of children of this early age. When the technique has been somewhat more refined, less time will be required for its application, and it is hoped that a later study will offer some practical changes toward this end.

The children are interested in new words and take a genuine delight in using them. Since this is the "naming period" of the child's life it is evidently the time for increasing the vocabulary. At the end of the first year the child is able to use words to nearly double the number at his command at the beginning of the school year. Through Nature Study he learns the different parts of flowers and insects, - talks of petals and antennae instead of leaves and hair. From Geography, he gets directions, ideas of building and planning houses, and a few physical conditions. Through literature he touches history, work, play, people of other countries, - their activities and dress, and the different holidays. This doubling of the vocabulary was further shown in this experiment by two other means, - decrease in time necessary to tell the stories, and accuracy in the use of





new words for stories repeated. In the early weeks of the experiment the time consumed in securing the reactions from a single child was about twenty to forty minutes. In the last weeks of the experiment no single reaction required more than fifteen to twenty-five minutes, even when the number of words was increased. Account was taken also of the accuracy with which words were used in the stories and dreams. The data have been carefully examined with this in mind and while no comparative results are here presented, the accuracy has evidently shown marked change for the better.

The number of subjects in this experiment is not sufficient to warrant sweeping general statements but the results are definite enough to emphasize the weakness of previous conclusions regarding the extent of children's vocabularies. Since twelve suggestion words can bring out over a thousand different concepts, then it is safe to conclude that two thousand words is a small estimate to place upon a complete vocabulary of a six-year-old child.

There were twelve girls and eight boys who completed the experiment up to a certain point. Of this number two boys used between 600 and 700 words while no girl used less than 700. When the average of all had been taken, however, it was found that only the slight difference of twenty-one words existed between the boys and the girls. From the individual differences shown, the girls' vocabulary slightly exceeds that of the boys' at this period of growth.



The results of even this preliminary test certainly show at least a general relation between efficiency and the extent of the vocabulary. Out of the twenty subjects not one who used less than 1000 words stood about 84% and none who used over 1000 words stood less than 83%. The children using 700 words or less were below 70% and those using 1300 words or more above 90%. Subjects No. 1 and 19 will be in the retarded class next year. Subject No. 14 used only 646 words and had a class average of 89%. His verbal limitations, however, may be accounted for by home environment. Of Jewish extraction, he hears a foreign tongue or broken English at home and his imitative language is therefore, curtailed. Much has been said of recent years concerning nasal growths and their effect upon the energy of the child. Subject No. 4 has these obstructions, presenting the usual stigmata, - pallor, pinched features, mouth breathing, etc. - yet his work has averaged with the higher grades, and in this test, his number of words is among the highest.

The vocabularies appear to consist of nouns and verbs in negative correlation and the extent of vocabulary which can be shown by the present method, may be a function of the distribution of the parts of speech. For example, subjects /who have used less than 900 words have used below 70% nouns, and not under 15% verbs; while those above 900 words have used not less than 70% nouns and not over 13% verbs. There are two exceptions - subject No. 19 who used 671 words had 74% nouns and 10% verbs, and subject 14 had 68% nouns and 15% verbs among his 646 words. There is a very slight difference in the average percent

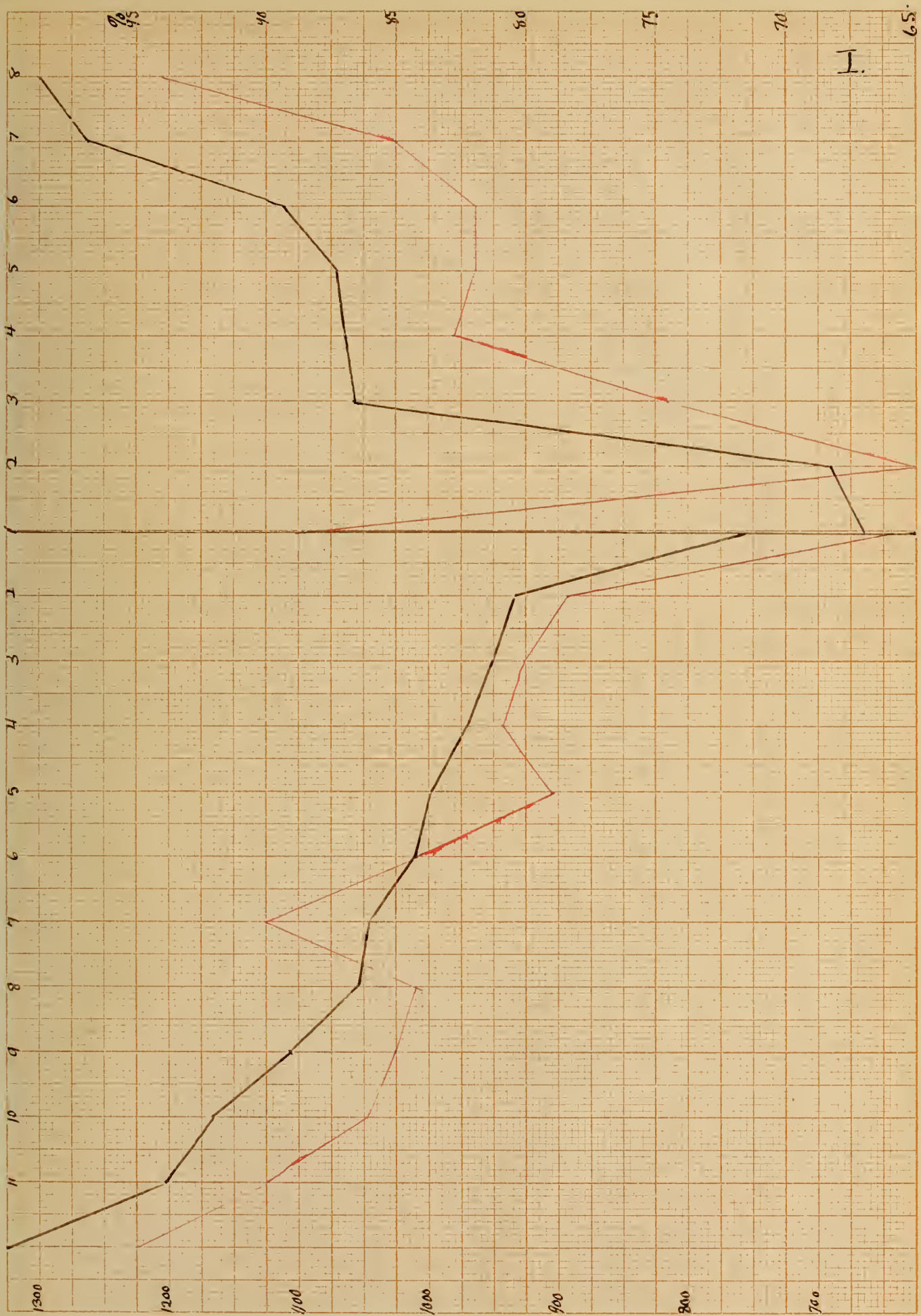




of the parts of speech of the boys and girls. There were 71.125% nouns and 12.4% verbs used by the boys and 70.916% nouns, 12.5% verbs used by the girls.

There is one noticeable feature in the difference in percent of the interjections of the boys and girls. The boys used a little over 1% more than the girls. The interjections were used in the games and with their toys by the boys, but the girls used them in connection with some description. The boys, "Gee, but it could go fast!" With the girls it was "My but it is pretty!" The boys used nearly 1% more pronouns than did the girls, but the other parts of speech were about the same.

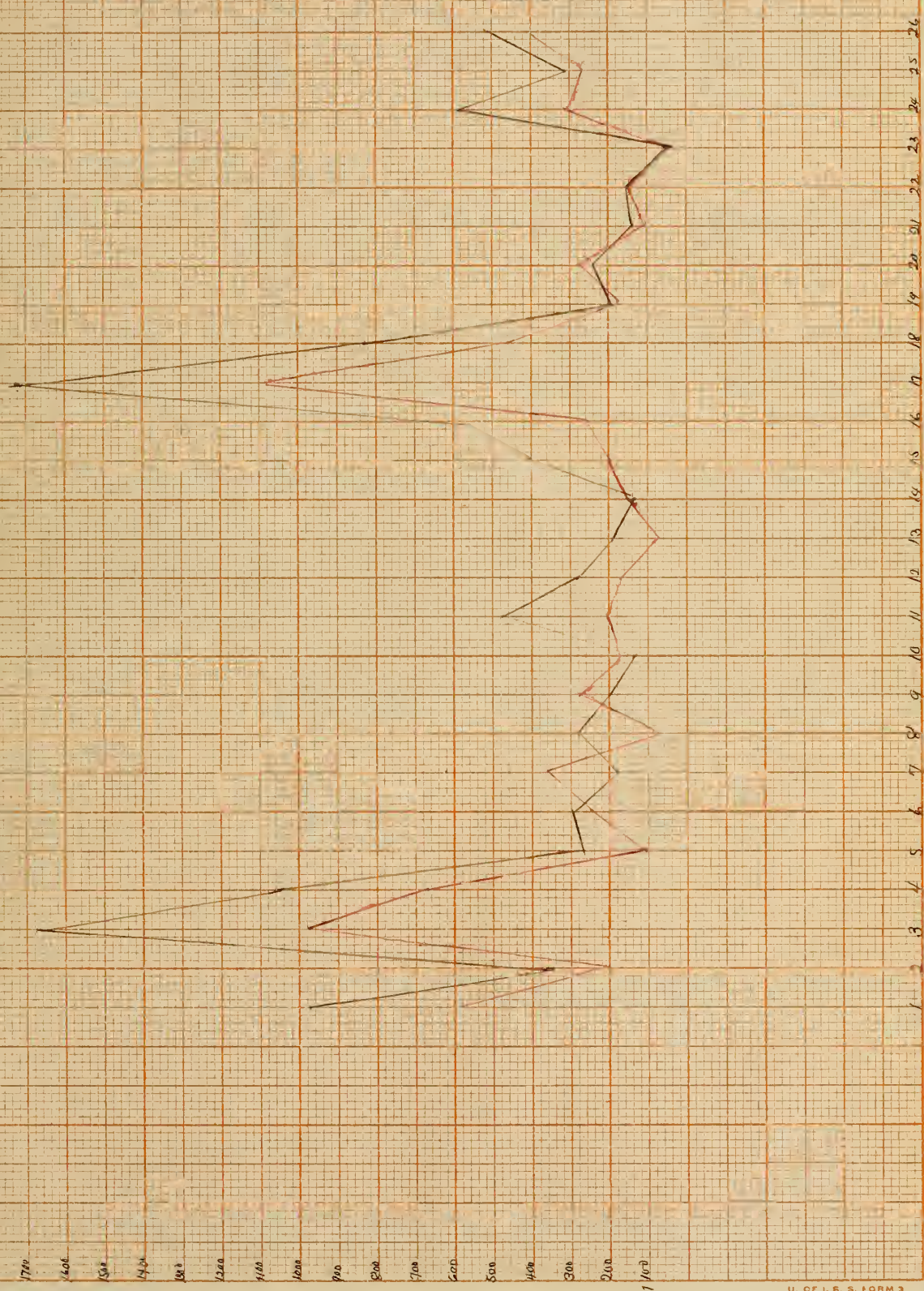






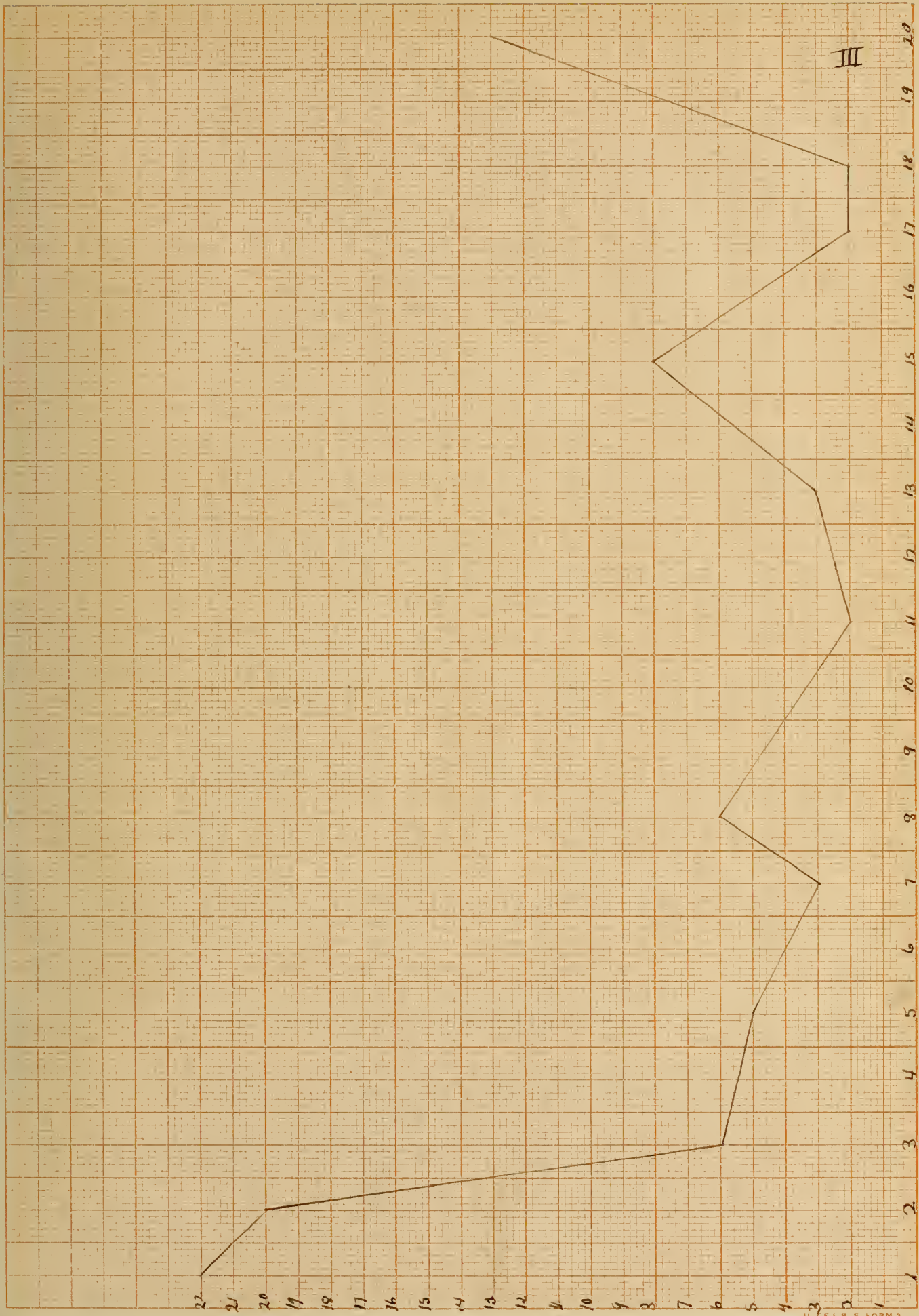


II





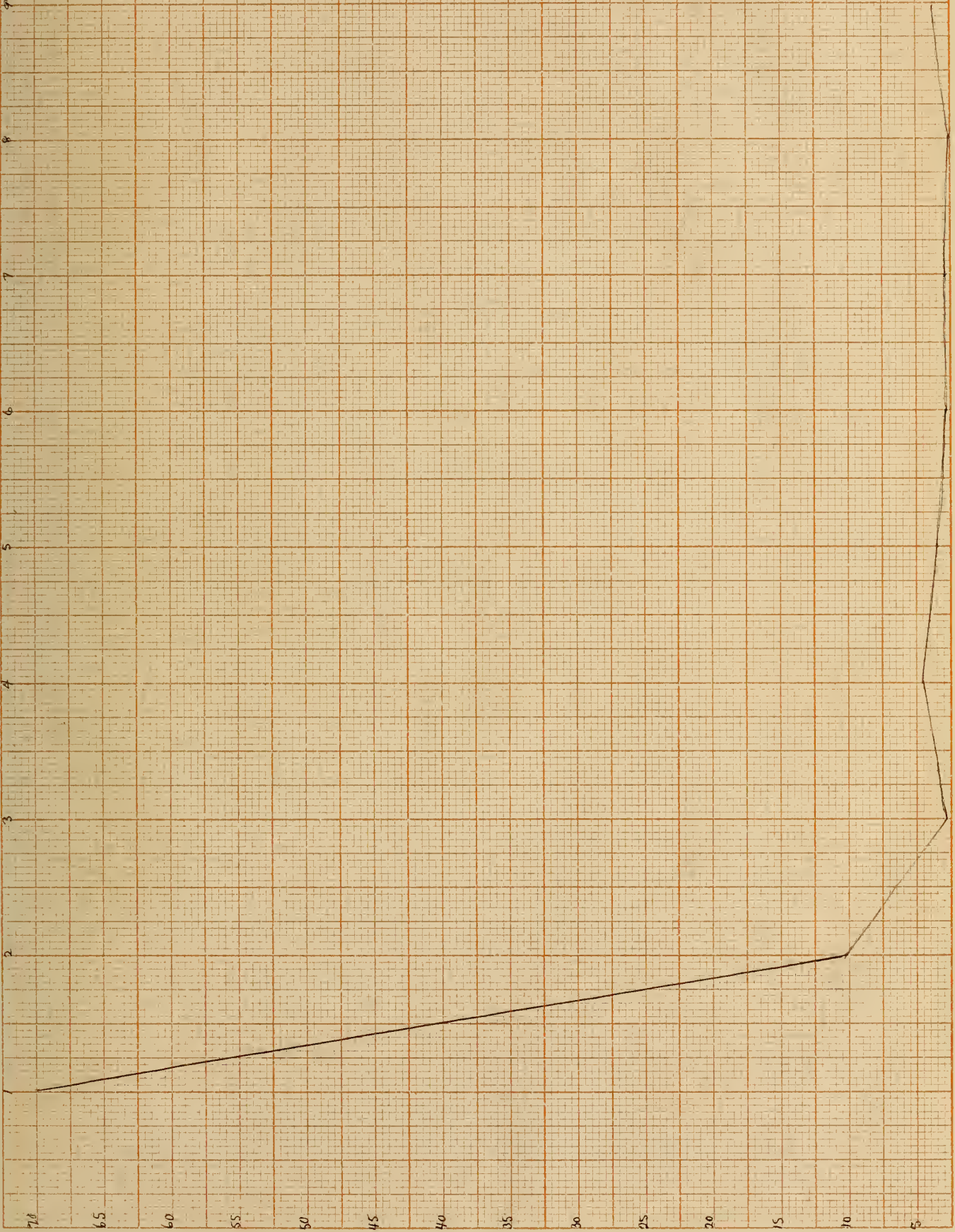






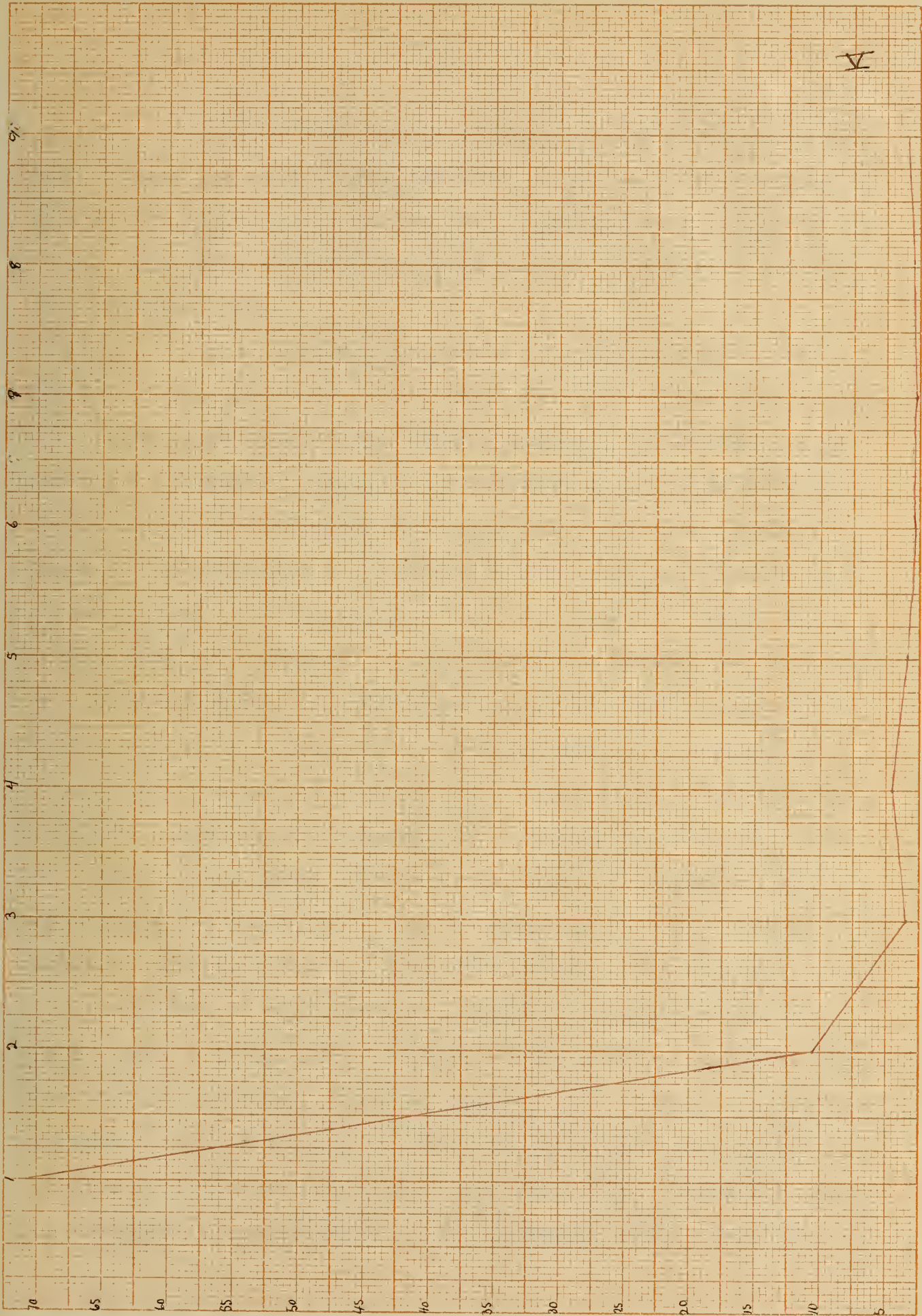


IV









✓





In curve 1 appears the number of new words given by each subject for each suggestion word, - ordinates show subjects, boys to the right, girls to the left. Abcissa show number of new words. The class standing for each subject is given in red ink upon the same chart.

Curve 11 shows the number of kinds of words used, - girls in black ink, boys in red ink. There are a few very noticeable differences between the work of the boys and girls in suggestion V (stores). The story V (stores) was divided into its eleven and story 1X (animal and vegetable life) into its five groups. Following are the suggestion words that correspond to the ordinates; - 1 - Party, 2 - Time. 3 - Food, 4 - Xmas, 5 - Butcher shop, 6 - Grocery, 7 - Hardware, 8 - Bakery, 9 - Furniture, 10 - Clothing store, 11 - Drygoods store, 12 - Book store, 13 - Jewelry store, 14 - Drug store, 15 - Toy store, 16 - Body, 17 - School, 18 - Circus, 19 - Birds, 20 - Animals, 21 - Insects, 22 - Trees, 23 - Flowers, 24 - Games, 25 - Church, 26 - Action. In the number of new words used in story number 7 (hardware) the boys exceed the girls, but just the opposite is true in story number 11 (drygoods store). The size of the boys' vocabulary fell below the girls in story number 8 (bakery) but went above in story number 9 (furniture). Nature Study, a school subject, teaches the names of the birds, animals, plants, etc. Curve 11 shows the suggestion numbers 19, 20, 21, 22, and 23 brought out practically the same kind of words from both boys and girls. Curve 111 shows the frequency of occurrences of the different verbs used. For



this all the verbs brought out by suggestion word X11 (actions) were chosen for the test. Any word is counted only once to the credit of any individual. Thus it is shown that 16 verbs were used by all of the subjects. This is the common vocabulary brought out by one suggestion word. Yet the 125 verbs to be found in the reactions to this suggestion word X11 (actions) are also common words in the lives of the children. Every subject could use correctly "break" "forget" and "think" but they were given by one person only. Such words as "drink" "call" and "skip" were given by two subjects only etc. The failure to use the remainder of the 125 words or at least a larger proportion of them, emphasizes the individual variations and warns the careful experimenter of the control necessary to accurate observation upon vocabularies.

Curves 1V and V show the number of times the frequency of the different parts of speech for boys and girls. Ordinates show subjects and abscissa percent of frequency of parts of speech. Boys is shown in red ink and the girls in black ink.

From the results of this experiment the following conclusions may be drawn, -

- (a) 2000 words is too small an estimate of the vocabulary of a child of the first grade.
- (b) A child's vocabulary increases rapidly during his first year in school.
- (c) Many words in the speaking vocabulary of a child are held in reserve, as it were, and are used in case of need.
- (d) The number of nouns exceeds that of every other part of speech.





(e) There is a relation between efficiency and the extent of vocabulary. The larger the vocabulary, the more successful the school work.

(f) Even at this age, a girl's vocabulary includes many words pertaining to the home and dress, while the boy's rapidly extends to the fields of special work, sports and business.

(g) The preliminary test of this method of securing the vocabulary shows that -

- 1 It is successful in getting the contents of a child's mind.

- 2 The vocabulary of a six-year-old child has been underestimated.

- 3 A suggestion list covering all points of a child's life must be carefully planned and tested.

- 4 A practical change is needed to reduce the time necessary for studying childrens' vocabularies.



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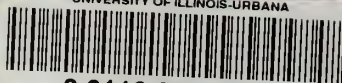








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